

Table 2. X-ray diffraction data

[rock type is sandstone exept where indicated otherwise]
[tr is trace component, less than 3%, ?tr is possible trace component]
[HCl test - while viewing with a binocular microscope, several drops of HCl acid were added to create a liquid dome above a small mound of sample powder and the liquid studied for gas evolution]
[For HCl test - Y is yes gas evolution detected, N is gas evolution not detected, and blank is test not completed]
[Pan concentrate - approximately 1-2 gram(s) (g) of sample were panned to concentrate the heavy minerals]
[Fines in notes - approximately 1 gram sample was suspended in distilled water, ultrasonified for 1 minute, allowed to settle for 30 seconds and then the supernatent collected and processed for X-ray diffraction]

Sample Number	Depth in feet	Geologic Unit	Comment																		Total	10% HCl test	Pan concentrate	Notes
				quartz	kaolinite	pyrite	mica (muscillite)	K-feldspar	plagioclase	clay (smectite/chlorite/glaucinite)	calcite	gypsum	barite	goyazite	anatase	rutile	hematite	doloresite	haeggitte	uraninite				
DB07-11-11C-1	249'1" - 251'1"	Fuson Shale	Fuson shale	80	19					tr			1	?	?tr						101		1 instance pyrite, black grains possible V mineral	Expandbale clay likely which would account for Ca, Mg, Al, and Ti. Smectite limited to trace amount.
DB07-11-11C-2	390'	Chilson shale	Chilson shale	63	7	tr	7	6		14	tr										99		tr pyrite	Total C value allows for as much as 4% carbonate, but calcite is present as tr; likely organic C present. Clay present.
DB07-11-11C-3	419'10" - 421'	Lower Chilson shale	Chilson shale	71	1		11	4		12	tr										99		no pyrite observed	Total C value allows for as much as 8% carbonate, but calcite is present as tr; likely organic C present. Clay analysis shows highly expandable smectite with tr illite and kaolinite.
DB07-11-11C-4	425'2" - 427'4"	Lower Chilson	reduced	97	1	0.4		2													100			
DB07-11-11C-5	429'6" - 432'7"	Lower Chilson	reduced	98	0.6	0.2		1													100			
DB07-11-11C-6	436'10.5" - 441'1"	Lower Chilson	reduced	96	1	0.4	2														99	Y	pyrite present	
DB07-11-11C-7	445'3" - 447'5"	Lower Chilson	reduced	91	2	0.8		6			tr										100	N		S content allows for 2% pyrite and there is sufficient Fe to support this amount of pyrite. Based on K content, microcline is overestimated and limited to 3% . Possible additional trace mineral.
DB07-11-14C-1	412'2" - 414'4"	Lower Chilson	reduced	85	1	0.5	6	4		3		1									101	Y		Mg phase not identified, but likely is clay such as Mg-smectite, chlorite or glauconite. Clay analysis includes highly expandable smectite, kaolinite, tr illite.
DB07-11-14C-2	414'4" - 416'6"	Lower Chilson	reduced	83	2	tr	8	4		2		2									101		tr pyrite	Mg phase not identified, but likely is clay such as Mg-smectite, chlorite or glauconite. Gypsum is limited to <1% by Ca content.
DB07-11-14C-3	422' - 424'2"	Lower Chilson	oxidized	96	tr			4																Microcline limited to 2% by K content.
DB07-11-14C-4	428'5" - 430'	Lower Chilson	oxidized	96	tr			4													100		no pyrite observed	Microcline limited to 1% by K content.
DB07-11-14C-5	436'7" - 438'7"	Lower Chilson	oxidized	97	2												1				100	N	no pyrite observed	
DB07-11-14C-6	440' - 442'2"	Lower Chilson	ore zone	92	4	0.6		2	tr			1									100	N	pyrite present	
DB07-11-14C-7	444'4" - 446'2"	Lower Chilson	reduced	94	2	0.3	2					2									100	N	pyrite present	
DB07-11-14C-8	453'4 " - 455'6"	Lower Chilson	Morrison	94	1			5			tr											Y		Very weak reaction to HCl. C content is likely organic C.
DB07-11-16C-1	412'1" - 414'3"	Lower Chilson	reduced upper ore limb	74	13	0.3	9	3		1											100		pyrite present	
DB07-11-16C-2	422'2" - 424'8"	Lower Chilson	oxid	96	2			2									?				100		pyrite present	
DB07-11-16C-3	440' - 441'2"	Lower Chilson	reduced lower ore limb	97	tr			3									?				100		ultrafine pyrite grains	Ni phase not identified
DB07-11-16C-4	445'6" - 447'5"	Morrison	reduced bottom coarse sand	97	2	0.5		tr									?				100		pyrite present	possible trace mineral not identified
DB07-11-4C-1	330' - 331'	Upper Chilson	Upper Chilson reduced	97	2	0.5		1													101			
DB07-32-3C-1	587'4" - 588'	Lower Fall River	reduced	95	<1			1			4										100		pyrite present	possible trace mineral not identified
DB07-32-3C-2	593' - 593'5"	Lower Fall River	reduced	94	tr	0.5	tr	1			4	?tr									100		pyrite present	
DB07-32-3C-3	598' - 601'	Lower Fall River	oxidized	96	tr		tr	1			3										100		few instances of pyrite	
DB07-32-4C-1	550' - 551'	Lower Fall River	some oxidation	69	tr	?tr	tr	tr			31										100		pyrite present	
DB07-32-4C-2	555'5" - 557'7"	Lower Fall River	some oxidation	62	tr	0.5	tr	1			37										101		pyrite present	
DB07-32-4C-3	561'7" - 563'9"	Lower Fall River	reduced green	89	?tr	0.6		tr			10										100		abundant	
DB07-32-4C-4	567'11" - 570'2"	Lower Fall River	reduced green	86	4	0.9		2			4						2	2	1		102		pyrite present	Fines include doloresite, haeggitte, uraninite, possible sherwoodite
DB07-32-4C-5	567'11" - 570'2"	Lower Fall River	oxidized	88	1			4			7										100		no pyrite observed	
DB07-32-4C-6	572'4" - 574'5"	Lower Fall River	oxidized	94	tr		tr	1			4										99		no pyrite observed	
DB07-32-4C-7	587'7" - 598'6.5"	Lower Fall River	oxidized	91	tr		tr	tr			8										99		no pyrite observed	
DB07-32-4C-8	587'7" - 589'6.5"	Lower Fall River	oxidized	95	tr		tr	2			2						tr				99	Y	no pyrite observed	